Remarks/Arguments

Please delete claims 2, and 11-20, amend the remaining claims as shown in the attachment and make the following argument on our behalf.

35 U.S.C. §112

Claim 4 has been amended to be dependent on independent claim 1 and not to preciously canceled claim 2. It is submitted that the examiner's rejection of claim 4 is now overcome and that claim 4 is now in condition for allowance. Such action is respectfully requested.

35 U.S.C. §103(a)

Claims , 3-10 and 21-30 stand rejected under 35 U.S.C. §103(a) as being anticipated by Luly et al., (US Patent 20020140617) and further in view of Langston et al. (US Patent number 6272351).

It is respectfully submitted that Luly et al., does not teach or suggest:

"a first connection to a first antenna, said first antenna operative to receive a first RF signal from a first satellite and to transmit a third RF signal to said first satellite;
a second connection to a second antenna, said second antenna operative to receive a second RF signal from a first satellite and to transmit said third RF signal to said second satellite;

"a signal transmitting means coupled between said first and second connections to said first and second antennas and said third connection to said signal processor"

"wherein said first down-converted signal, said second down-converted signal, and said third RF signal are present at said third connection to said signal processor simultaneously."

as recited by the presently amended claim 1.

Furthermore, Luly et al., does not address the same problem nor provide the same solution to this problem.

The problem addressed in the subject application is the inability to effectively provide simultaneous two way communications between a satellite set top box and a plurality of satellites. The ability to provide two way communications between a set top box and a plurality of satellites facilitate the use of low earth orbit (LEO) satellite system. If the system were unable to communicate with a plurality of satellites, when a satellite orbit crossed the horizon with respect to the set top box, the signal would be lost, interrupting service for the user. Thus it is essential that the system connect to a second satellite before the connection to the first satellite is lost.

To solve this problem, the subject application discloses an apparatus having a first and second signal receiving means and a first transmitting means. Each receiving means is connected between its own antenna and a common signal processing device. Each antenna is operative to transmit and receive signals from a different satellite. Each receiving means downconverts its received signal independently of the other receiving means. The transmitting means is connected between the common signal processing device and at least one antenna. The transmitting means transmits at a frequency not currently used by the transmitting means connected to the same antenna.

It is respectfully submitted that Luly et al. does not teach or suggest:

> "a first connection to a first antenna, said first antenna operative to receive a first RF signal from a first satellite and to transmit a third RF signal to said first satellite;
> a second connection to a second antenna, said second antenna operative to receive a second RF signal from a first satellite and to transmit said third RF signal to said second satellite;

as recited by the currently amended claim 1. It is submitted that Luly et al., teaches a system wherein a first antenna is used to receive a first Ku band signal (first feed horn at prime focus) and a second antenna (second feed horn at image focus) is used transmit and receive an RF signal in the Ka band. (Page 2, ¶19-20) These **two antennas** are co-located

to take advantage of the same parabolic reflector. (page 2, ¶22) In using the same reflector to receive signals to two feed horns, the system of Luly et al. can only transmit signals to and from the same satellite or nearly or actually collocated satellites. (end of ¶11 on page 2) Thus Luly cannot provide two-way communication with two satellites operating in a low earth orbit, since once the satellite or the two collocated satellites drop below the horizon, communications are interrupted for the user. Luly et al. does not suggest the problem addressed by the present invention, nor does it remotely suggest the solution. The system of Luly is capable of transmitting through only one antenna, thus suffering from the very problem addressed by the present invention that makes current satellite communications systems unsuitable for a LEO satellite system.

Luly et al., does not teach or suggest " a signal transmitting means coupled between said first and second connections to said first and second antennas and said third connection to said signal processor" as recited by the currently amended claim 1. Thus Luly cannot provide two-way communication with two satellites operating in a low earth orbit, since once the satellite or the two collocated satellites drop below the horizon, communications are interrupted for the user. The system of Luly is capable of transmitting through only one antenna, thus suffering from the very problem addressed by the present invention that makes current satellite communications systems unsuitable for a LEO satellite system Luly et al. does not suggest the problem addressed by the present invention, nor does it remotely suggest the solution.

Finally, Luly et al., does not teach or suggest "said first down-converted signal, said second down-converted signal, and said third RF signal are present at said third connection to said signal processor simultaneously." as recited by the currently amended claim 1. Therefore Luly cannot provide two way communication with two satellites operating in a low earth orbit, since once the satellite or the two collocated satellites drop below the horizon, communications are interrupted for the user. To effectively solve the problem addressed by the present invention, the system must be able to provide two way communications to two satellites simultaneously. Sincesystem of Luly is capable of transmitting through only one antenna, thus suffering from the very problem addressed by

the present invention that makes current satellite communications systems unsuitable for a LEO satellite system

It is respectfully submitted that Langston et al., does not teach or suggest:

> "a first connection to a first antenna, said first antenna operative to receive a first RF signal from a first satellite and to transmit a third RF signal to said first satellite;
> a second connection to a second antenna, said second antenna operative to receive a second RF signal from a first satellite and to transmit said third RF signal to said second satellite;
>
> "a signal transmitting means coupled between said first and second connections to said first and second antennas and said third connection to said signal processor"
>
> "wherein said first down-converted signal, said second down-converted signal, and said third RF signal are present at said third connection to said signal processor simultaneously."

as recited by the presently amended claim 1.

Langston et al. does not teach or suggest:

> "a first connection to a first antenna, said first antenna operative to receive a first RF signal from a first satellite and to transmit a third RF signal to said first satellite;
> a second connection to a second antenna, said second antenna operative to receive a second RF signal from a first satellite and to transmit said third RF signal to said second satellite;

as recited by the currently amended claim 1. It is submitted that Langston et al., teaches a repeater configuration wherein signals from wireless communications system user are relayed through a secondary base station before being transmitted to a primary base station. Langston et al. does not teach or remotely suggest the problem of the inability to effectively

provide simultaneous two way communications between a satellite set top box and a plurality of satellites. Langston et al. teaches a system wherein the secondary stations transmit at a first frequency and receive signals in a second frequency. Langston et al., does notteach a "first antenna operative to receive a first RF signal from a first satellite and to transmit a third RF signal to said first satellite" or a "second antenna operative to receive a second RF signal from a first satellite and to transmit said third RF signal to said second satellite" as recited by the currently amended claim 1.

Langston et al. does not teach or suggest "a signal transmitting means coupled between said first and second connections to said first and second antennas and said third connection to said signal processor" as recited in the current claim 1. Langston et al., teaches a plurality of signal transmitting means, each coupled between two signal points. Either two antennas, as is the case with the secondary base stations (82,84) or, in the case of the primary base station (64) between and antenna and a fiber optic cable. (Col. 5, lines 60-61) Langston does not teach or suggest a signal transmitting means coupled between said first **and** second connections to said first and second antennas **and** said third connection to said signal processor" as recited in the current claim 1.

Finally, Langston et al. does not teach or suggest an apparatus:

> "wherein said first down-converted signal, said second down-converted signal, and said third RF signal are present at said third connection to said signal processor simultaneously."

Since Langston et al., does not teach or suggest any common connection point between the first and second connection to the first and second antennas and a third connection to the signal processor, it is submitted that the first down-converted signal, the second down-converted signal, and the third RF signal cannot be present at any single connection at any one time. Langston et al., teaches that the first downconverted signal is in the first base station, the second downconverted signal is in the second base station, and the third RF signal is present on the fiber optic cable going into the primary base station signal three transmitting means, each coupled between two signal points.

Since neither Luly et al., nor Langston et al., teach or suggest the limitations claimed in the currently amended claim 1, it is submitted that claim 1 is allowable. Such action is respectfully requested. Furthermore, it is submitted that independent claim 21 is allowable for at least the same reasons that claim 1 is allowable. Such action is respectfully requested. Since dependant claims 2-9 and 22-30 are dependant from allowable claims 1 and 21 respectively, it is submitted that they too are allowable for at least the same reasons for which their respective independent claims are allowable. Such action is respectfully requested.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,

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